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REMARKS

This amendment is responsive to the Official Action dated March 1, 2005.

Claims 1 - 29 were pending in the application.

Claims 1 - 29 were restricted.

By way of this amendment, the Applicant has canceled claims 26-29.

Accordingly, claims 1-25 are currently pending.

Extension of Time:

The three-month period for reply expired on June 1, 2005. The Applicant has enclosed a request for a 1-month extension of time from June 1, 2005 to July 1, 2005.

Entry of the extension is respectfully solicited.

Restriction under 35 USC §121:

Restriction to one of the following inventions was required under 35 USC §121:

- I. Claims 1-25 drawn to a composition and article made therefrom, classified in class 428, subclass 32.15
- II. Claims 26-29, drawn to a method of making, classified in class 427, subclass 146.

A provisional election was made with traverse on February 25, 2005 to prosecute the invention of Group I, namely claims 1-25.

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Applicant hereby affirms the prior election without traverse, and has canceled claims 26-29 subject to the filing of a divisional application.

Rejection of Claims under 35 USC §102(b)

Claims 1-6, 10 11 and 14 were rejected under 35 USC §102(b) as being anticipated by Kaneko et al 2201/0004487.

The Examiner stated the following as a basis for the rejection:

“The reference discloses an ink jet recording material having one or more coating layers thereon and coating compositions for formation of the layers [0017, 0031]. A layer of polymer latex may be formed from an aqueous dispersion of cationic polyurethane resin [0032, 0038]. The composition may contain particles that are fumed silica [0043]. The particles are preferably treated to be cationic [0030]. The particles are present at about 10 to 400% by weight based upon the total weight of latex/resin in the layer [0044]. Based upon the disclosure of the reference concerning the material present in this coating, the ranges set forth by the reference is considered to inherently overlap with the ranges of claims 1 and 2. The fumed silica has an average particle size of 50nm or less [0020]. An acrylic polymer may also be present in the composition [0033]. Additives including UV absorbers are disclosed to be included [0048]. The composition is coated onto a substrate to form an ink receptive layer [0031]. The substrate may be paper with a basis weight of 30-250g/m² [0050-0054].” (Paragraph 2)

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Kaneko discloses an ink jet recording material having at least two ink receptive layers. The ink receptive layers comprise a lower layer containing a polymer latex and resin emulsion with solid fine particles and an upper layer containing fumed silica and a polymer resin.

Kaneko describes the upper (fumed silica containing) layer in paragraphs 0017 through 0030.

Kaneko describes the lower (latex containing) layer in paragraphs 0031 through 0046.

From a thorough reading of the Official Action, Applicant assumes that the Examiner is attempting to rely on the lower latex-containing layer of the Kaneko reference as having the same composition as the ink-receptive layer of the instant claims.

The Applicant respectfully disagrees with the Examiner's interpretation of Kaneko and offers the following comments to distinguish the invention.

As indicated above, Kaneko describes the upper (fumed silica containing) layer in paragraphs 0017 through 0030. However, it is the Applicant's position that these paragraphs of Kaneko DO NOT disclose "cationic" fumed silica.

The Examiner states in the rejection that "the particles are preferably treated to be cationic", referring to paragraph 0030 of Kaneko. Contrary to the Examiner's position, paragraph 0030 in fact does not disclose cationic fumed silica. Rather, paragraph 0030 indicates that a cationic polymer is preferably added to the fumed silica-containing layer, but does not describe or disclose that adding the cationic polymer causes the fumed silica to become cationic fumed silica. Fumed silica must be chemically treated to become cationic prior to dispersion. Accordingly, the top layer does not include cationic fumed silica, but rather fumed silica dispersed within a cationic polymer.

Furthermore, the description of the lower latex-containing layer does not disclose cationic fumed silica. The latex-containing layer of Kaneko includes a polymer latex and resin emulsion in combination with solid fine particles. The description identifies three separate elements of the layer: 1a) polymer latex; 1b) polymer resin; and 2) solid fine particles.

The polymer latex and resin emulsion are described in paragraphs 0031 through 0042. It is disclosed that the polymer latex can be acrylic polymer, urethane polymer, ester

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polymer, olefin polymer, amide polymer, vinylidene chloride polymer, epoxy polymer, etc. [0032]. It is further disclosed that the polymer resin can be cationic [0038] (see also [0030]).

Arriving at paragraph [0040], it is also mentioned that hollow particles can be used as the polymer latex, and that of these particles, particles having a cationic group are preferred [0041]. However, fumed silica is not listed as one of the hollow particles. Accordingly, it can be derived that the polymer latex and resin emulsion may be cationic. Turning now to the solid particles, these solid particles are a separate component. The solid fine particles to be used in the latex-containing layer may be organic or inorganic and may include silica, and more preferably fumed silica (as mentioned above), but are not described as cationic fumed silica.

In summary, the Applicant submits that while many of the other resins and polymers and surfactants in Kaneko are described as cationic, there is no instance known to the Applicant in which Kaneko describes the use of "cationic fumed silica" as currently claimed in independent claims 1 and 16. The Examiner states that "the particles are preferably "treated" to be cationic" [0030]. Paragraph 0030 identifies that a cationic polymer is added to the fumed-silica containing layer. The process of adding a cationic polymer to the fumed silica layer does not chemically modify the fumed silica to result in cationic fumed silica. "Cationic fumed silica" as claimed is a surface modified form of fumed silica, chemically treated to become cationic or positively charged. Accordingly, neither paragraph 0030, nor any other paragraph of Kaneko discloses the use of cationic fumed silica within any of the layers of the media.

Withdrawal of the rejection is respectfully solicited.

Rejection of Claims under 35 USC §103

Claims 1-6 and 10-23 were rejected under 35 USC §103 as being unpatentable over Kaneko.

The Examiner states the following as a basis for the rejection:

"Kaneko is relied upon as set forth above as well as for the following reasons. The reference does not specifically disclose the water absorption of a water-absorptive support. However, these supports, conventionally paper, are

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well known in the art, as is the important of the property of water absorption when imaging with aqueous ink jet inks. It would have been obvious to one of ordinary skill in the art to determine porosity for the support in order to achieve desired drying times and drying characteristics." (paragraph 3)

For the reasons outlined above, i.e. that Kaneko does not disclose the use of cationic fumed silica, Kaneko cannot render the claimed invention as obvious. Withdrawal of the rejection is respectfully solicited.

Claims 1, 8, 9, 16 and 24 were rejected under 35 USC§103 as being unpatentable over Kaneko for the reasons set forth above and further in view of Morris et al (2003/0003277).

The Examiner stated the following as a basis for the rejection:

"The secondary reference discloses an ink jet recording medium having an ink receptive layer containing fumed silica. ... The reference also discusses the net charge of the fumed silica used therein and controlling the zeta potential of the particles so that the zeta potential and the charge on the particles are positive." (paragraph 4).

As set forth above it is the Applicant's position that Kaneko does not disclose the use of cationic fumed silica. Morris discusses an ink receptive layer including a product formed from the contact between fumed silica particles and at least one aminoorganosiloxane. The process of forming the coating product preferably comprises mixing fumed silica particles with an aqueous vehicle (deionized water) under high shear so as not to coagulate, and then adding at least one aminoorganosiloxane so as to form a dispersion. The resulting dispersion has a positive zeta potential. It is the speculation of the inventors that the aminoorganosiloxane chemically reacts with the fumed silica to cause the surface of the fumed silica particles to become cationically charged [0029].

Applicant submits that Morris does not explicitly disclose the use of cationic fumed silica as part of the coating composition. The applicant specifically claims a coating composition comprising a cationic polymer resin and cationic fumed silica. Morris discloses the use of fumed silica and makes a speculation that the fumed silica becomes cationic when

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dispersed with an aminoorganosiloxane. This is not the same as the claimed invention, which recites that the fumed silica is cationic at the time of dispersion. Chemically treating the fumed silica to definitively become cationic prior to dispersion is different than dispersing fumed silica in water and adding an agent that "might" cause the surface to become cationically charged.

There is an insufficient disclosure of the proper form of cationic fumed silica, and there is no specific teaching or suggestion that this process renders the same results as claimed. The references, neither alone, nor in combination, disclose the use of cationic fumed silica as claimed.

Withdrawal of the rejection is respectfully solicited.

Claims 1 and 7 were rejected under 35 USC §103 as being unpatentable over Kaneko for the reasons set forth above and further in view of Field (6,420,039).

The Examiner stated the following as a basis for the rejection:

"The reference teaches that fumed silica for inclusion on recording media may be made cationic and have its zeta potential controlled by treatment with alumina. Based on this teaching, it would have been obvious to one of ordinary skill in the art to include alumina treated silica as the silica of the primary reference as a means of modifying zeta potential and rendering the silica cationic." (paragraph 5).

Claim 1 recites the requirement of a cationic polyurethane resin and cationic fumed silica. As indicated above, Kaneko discloses a cationic polymer resin and fumed silica, but not cationic fumed silica. The Examiner purports to combine Field with Kaneko by saying that the cationic silica of Field can be interchanged with the fumed silica of Kaneko.

Applicant respectfully disagrees with the present combination of references. Field discloses "cationic silica" as opposed to "cationic fumed silica". Silica has 17 different crystalline forms. Fumed silica is an exceptionally pure form of silicon dioxide made by reacting silicon tetrachloride in an oxy-hydrogen flame. The fumed silica as claimed is then chemically treated to provide a positive surface charge. "Cationic silica" is thus different than "cationic fumed silica" as claimed. Furthermore, Field only describes the use of cationic

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silica in connection with an aqueous dispersion and/or an organic (alcohol) dispersion. Polymer binders are disclosed, but only in small amounts. Finally, the percentage of fumed silica content by weight in Field is disclosed as only 20%. Claim 1 recites at least 60% by weight, at least three times the amount disclosed in Field. The properties of an aqueous dispersion of cationic silica are different than that of a cationic polyurethane resin and cationic fumed silica, and there is no suggestion or teaching in Field to point toward the use of cationic silica in a dispersion including at least 14% cationic polyurethane resin.

Withdrawal of the rejection is respectfully solicited.

Claims 16 and 25 were rejected under 35 USC §103 as being unpatentable over Kaneko for the reasons set forth above and further in view of Liebler et al.

The Examiner set forth the following as a basis for the rejection:

"The secondary reference teaches that metal-coated supports are known in the art for creating a reflective recording medium. It would have been obvious to one of ordinary skill in the art to include such a support to achieve an optical effect as taught by Liebler." (paragraph 6)

As set forth above, it is the Applicant's position that Kaneko does not disclose the required element of "cationic fumed silica", and thus cannot render the cited claims as obvious.

Withdrawal of the rejection is respectfully solicited.

Accordingly, claims 1-25 are believed to be patentable in view of the cited references.

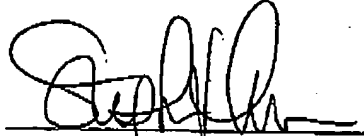
Claims 1-25 are thus believed to be in condition for allowance and the application ready for issue.

Corresponding action is respectfully solicited.

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or credit any overpayment to our account #02-0900.

Respectfully submitted,



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